

Producing Essential Oils in West Africa



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[Photo: Essential oil extraction unit in Togo.]

In West Africa, money grows on fields and scrub. In addition to such cash crops as palm and cocoa, local farmers grow bananas, mangoes, lemongrass, tea, tomatoes, and aromatic herbs such as basil, lemongrass, and thyme. But transforming these plants into essential oils for use in soaps, cosmetics, detergents, and other household products could bring in even more money while conserving the region's foreign exchange.

To meet local demand, Togo, Ghana, and Benin now import almost all of their essential oils from Europe, Asia, and North America. Ghana and Benin also import significant quantities.

Transforming local crops

To reduce their dependency on imports and increase employment in rural areas, these countries are trying to encourage the creation of small businesses that produce essential oils derived from local crops. "Agriculture is the main source of income for rural communities. The transformation of non-perishable goods to increase their value can help protect farmers from unstable prices of cash crops — such as cocoa, coffee, cotton, and palm," notes Professor [Honoré Kossi Koumaglo](#), of the University of Benin in Lomé, Togo.

Dr Koumaglo is one of the project leaders of a West African initiative that links researchers at the University of Benin (Togo), the National University of Benin (Benin), the University of Legon (Ghana), and l'[Université du Québec à Chicoutimi](#). With funding from the International Development Research Centre (IDRC), Dr Koumaglo and his colleagues are helping rural communities acquire the skills needed to extract essential oils from Gambian tea, basil, lemongrass, and other native plants. The research team is also investigating local, regional, and international markets for essential oils.

Lemongrass oil

So far, rural communities in Togo, Benin, and Ghana have mastered the extraction technology for lemongrass oil, which has an estimated total demand of 400 tonnes per year in those three countries. "Lemongrass oil is manufactured through steam distillation. Each distillation unit is

composed of an extractor, a steam boiler, a condenser, and a separator," explains Dr Koumaglo. Distillation units can be built using local materials at costs ranging from CFAF 3.5 million in Togo (about US\$5,800) to 18.8 million cedis in Ghana (US\$8,200).

With financial assistance from the [Canadian International Development Agency](#), the Ghanaian Regional Service for Appropriate Industrial Technology has provided loans for 16 distillation units, which will be used by more than 600 farmers. It also plans to set up 300 extraction units throughout the six regions of Ghana to mobilize almost 5,000 farmers.

Rural cooperatives

In Togo, three cooperatives involving almost 150 farmers are producing essential oil plants. One of the three has installed a small pilot extraction unit to produce lemongrass and other essential oils. The other cooperatives will also have their own extraction equipment by the end of this year, thanks to a UNESCO grant. According to research by Dr Koumaglo's team, up to 90 tonnes of biomass can be harvested per hectare, yielding about 720 kilograms of lemongrass oil. In Togo, the average price of lemongrass oil is about CFAF 5,000 (US\$8) per kilogram — resulting in a gross income of CFAF 3.6 million per hectare (US\$6,000) .

Beninese farmers are also producing essential oils, although they require better extraction units. Most farmers are currently using haphazard units, which make it harder to extract worthwhile amounts of oil.

Export markets

"When completed, the regional project will make it possible [for rural communities] to install several extraction units and seek out export markets for oils such as eucalyptus and basil," says Dr Koumaglo. Considering that a kilogram of basil oil sells for CFAF 30,000 to 60,000 (US\$50-100), West African farmers can not afford to ignore this market.

[* As of June 1998, US\$1 = 600 CFAF or 2300 cedis.]

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